

# Notice of Allowability

Application No.

10/775,766

Examiner

Kuen S. Lu

Applicant(s)

HINSHAW ET AL.

Art Unit

2167

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/13/2006.
2. ☒ The allowed claim(s) is/are 1,7-33 and 39-63 (renumbered to 1-53).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 2/3/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 5/17/2006.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Continuation of Attachment(s) 9. Other: Drawings filed 7/9/2004 and Fig. 3 replacement filed 10/4/2005 are accepted..

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's Amendment after Final filed February 15, 2006 is now entered.
2. After a thorough search and examination of the present application, a telephone interview conducted on May 17, 2006, and in light of the prior art made of record, Applicant's response of February 15, 2006 and Examiner's Amendment made on May 17, 2006, Claims 1, 7-33 and 39-63 are allowed.

### ***Priority***

3. Applicant's claim for the benefit of a prior-filed application, U.S. Provisional Application No. 60/446,366, filed February 10, 2003, under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

### ***Information Disclosure Statement***

4. The information disclosure statement (IDS) filed February 3, 2005 is considered complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) and an electronically signed PTO-1449 is attached.

### ***Drawings***

5. The Drawings filed on July 9, 2004 and Figure 3 replacement filed on October 4, 2005 are accepted.

***Examiner's Amendments***

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this Examiner's amendment, listed below, was given in a telephone interview with Ms. Mary Lou Wakimura (Registration Number 31,804) on May 17, 2006. The interview summary is attached.

Please amend claims 1-8 and 33-40 as follow:

1. (Currently Amended) A computer-implemented method of maintaining materialized views of a data source in a system of multiple storage units and a host controller, said method comprising the steps of:

distributing to respective storage units control of portions of a materialized view,

such that each storage unit controls and stores a portion of the materialized view corresponding to an associated portion of the data source; and

using the respective storage unit, independent of the host controller, maintaining the corresponding portion of the materialized view;

executing a set of instructions associated with the materialized view;

sending the set of instructions from the host controller to the storage unit,

wherein the set of instructions comprises compiled instructions and not compiled instructions;

caching the set of instructions at the storage unit; and

at the storage unit, selecting a subset of instructions from the set of instructions for execution.

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (Canceled).

6. (Canceled).

7. (Currently Amended) The computer-implemented method of maintaining materialized views of claim 2<sub>1</sub>, wherein the set of instructions is based on a data schema.

8. (Currently Amended) The computer-implemented method of maintaining materialized views of claim 21, wherein the set of instructions is used to propagate rows inserted into the data source to the materialized view.

33. (Currently Amended) A computer-implemented system for maintaining materialized views of a data source, said system comprising:

a host controller;

multiple storage units communicating with the host controller; and

one or more materialized views distributed to at least one storage unit, each storage unit controlling and storing, independent of the host controller, an associated portion of a materialized view corresponding to a portion of the data source;

a set of instructions associated with the materialized view,

wherein the set of instructions comprises compiled instructions and not compiled instructions;

the set of instructions is stored at the host controller;

the set of instructions is stored at the storage unit; and

the storage unit selects a subset of instructions for execution.

34. (Canceled).

35. (Canceled).

36. (Canceled).

37. (Canceled).

38. (Canceled).

39. (Currently Amended) The computer-implemented system for maintaining materialized views of the data source of claim ~~34~~33, wherein the set of instructions is based on a data schema.

40. (Currently Amended) The computer-implemented system for maintaining materialized views of the data source of claim ~~34~~33, wherein the set of instructions is used to propagate rows inserted into the data source to the materialized view.

***Reason for Allowable***

7. The following is an examiner's statement of reasons for allowance:

In the Examiner's Office Action for Final Rejection of December 13, 2005, U.S.C. § 103, rejections was based on Blunden et al.: Storage Networking Virtualization, What's it all about? December 2000, IBM, hereafter "IBMVersa" and in view of Oracle9iAS Clickstream Intelligence Administrator's Guide, Release 2 (9.0.2), May 2002, Oracle®, hereafter "Ora9iAS".

In the response filed on February 15, 2005 to the Final Rejection, Applicant argued that IBMversa is directed to visualization of storage systems rather than maintaining

materialized views while Ora9iAS teaches creating partitions for a materialized view.

Applicant further argued that IBMVersa and Ora9iAS do not teach distributing to respective storage units control of portions of a materialized view

After a thorough search for the prior art conducted on EAST database and domains (NPL-ACM, Google, IBM-Redbooks, EMC, NPL-IEEE), and a detailed examination of the search results, the Examiner is persuaded that the prior art searched and made of record does not teach the subject matter of

**maintaining materialized views by distributing to one or more storage units control over portions of a materialized view, each storage unit storing portions of the materialized view that correspond to portions of a base table stored on that storage unit; and, the maintenance of the portions of the materialized view may then be performed by the respective storage unit independent of a host controller,**

as described in the claims amended by Examiner's Amendment as listed above in each of the independent claims 1 and 33.

The dependent claims in the groups (7-33) and (39-63), depending on claims 1 and 33, respectively, also distinct from the prior art for the same reason.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably





accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Contact Information**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).

Kuen S. Lu   
Patent Examiner  
May 19, 2006

  
JOHN R. COTTINGHAM  
PRIMARY EXAMINER

